

## **REMARKS**

Claims 1-24 have been amended. No claims have been added or canceled. Therefore, claims 1-24 remain pending in the application. Reconsideration is respectfully requested in light of the following remarks.

### **Section 103(a) Rejection:**

The Examiner rejected claims 1-24 under 35 U.S.C. § 103(a) as being unpatentable over Leymann et al. (U.S. Patent 6,928,477) (hereinafter “Leymann”) in view of Grinter (U.S. Patent 6,606,304) (hereinafter “Grinter”). Applicants respectfully traverse the rejection for at least the following reasons.

#### **Claim 1**

In regard to claim 1, the cited art fails to teach or suggest wherein each given timer service of said plurality of timer services is operable to (a) service timer requests from the one or more application instances on the respective server that comprises said given timer service (b) in response to the failure detection service detecting a failure of an other timer service of said plurality of timer services on an other server of said plurality of servers, assume one or more pending timer requests of the other timer service, wherein, prior to the failure detection service detecting said failure, said one or more pending timer requests are designated to be serviced by said other timer service in the cluster, and (c) service the one or more pending timer requests assumed by the given timer service.

**More specifically, the cited art fails to teach or suggest a timer service that is operable to, in response to the failure detection service detecting a failure of an other timer service of said plurality of timer services on an other server of said plurality of servers, assume one or more pending timer requests of the other timer service, wherein, prior to the failure detection service detecting said failure, said one**

**or more pending timer requests are designated to be serviced by said other timer service in the cluster.** The Examiner cites column 9, lines 29-36 of Leymann and notes “the responsiveness of the cluster by detect as soon as the became available.” Column 9, lines 10-36 are reproduced below:

Each hot pool on a server of an application cluster is monitored by a “watchdog”. Such a watchdog detects failed hot pool members and recreates them immediately in an automatic manner, this is depicted in FIG. 3. The current invention in addition suggests that the collection of watchdogs in an application cluster monitor themselves (“watchdog watchdogging” or watchdog monitoring). This is achieved via a communication medium that allows to run a protocol to receive information about the state of a hot pool on a given machine; for instance “heartbeat” protocols could be used for that purpose. When one of the server of the application cluster fails the watchdog on this server will be detected to have failed (with a latency that depends on the monitoring protocol used) by other watchdogs. As a result, the remaining watchdogs will be able to multi-cast this fact and send this information to the server spray (which will maintain the cluster database accordingly) so that the workload functions can make use of this information avoiding to schedule requests to the failed server. Similarly, when the server is available again the watchdogs will detect that. Once the workload functions got that information new requests can be submitted to the recreated server. The proposed approach significantly improves the responsiveness of the cluster as it is avoided that application requests are sent to non-responsive servers; moreover processing resources are detected as soon as they become available and are included in the workload balancing process. (emphasis added).

As demonstrated above, the “requests” on which the Examiner relies are *new* requests submitted to a recreated server. Such “new requests” clearly do not meet the specific limitations of claim 1, which clearly specify that the requests assumed by the timer service are pending requests that are designated to be serviced by said other timer service in the cluster prior to the failure detection service detecting said failure. The cited art teaches that the requests that are submitted to the recreated server are new requests which are created after the failure of a hot pool member. **Since a client submitting a new request to a recreated server (as taught by Leymann in view of Grinter) is not the same as a given timer service assuming one or more pending timer requests of an other timer service, the cited art fails to teach or suggest the specific limitations of Applicants’ claim.** Furthermore, Applicants note that Grinter fails to overcome the

deficiencies of Leymann. For instance, even were one to combine the “watchdog timer” (or any other element of Grinter) with the teachings of Leymann, the requests taught by such combination would still be new requests as taught by column 9, lines 29-36 of Leymann.

**Furthermore, the cited art fails to teach or suggest that the given timer service is configured to service the one or more pending timer requests assumed by the given timer service. First,** since the cited art fails to teach or suggest a given timer service assuming one or more pending timer requests of an other timer service according to the specific limitations of Applicants’ claim, the cited art cannot teach the given timer service servicing such pending timer requests assumed from the other timer service according to the specific limitations of Applicants’ claim. **Second,** according to the specific limitation of Applicants’ claim, the timer requests that are serviced by the given timer service (a) originate from within the claimed plurality of servers and (b) are serviced by a timer service in the same plurality of servers. By contrast, according to the explicit teachings of the cited art, the requests that are submitted to the recreated server (cited by the Examiner, *see e.g.*, column 9, lines 29-36) do not originate from within a plurality of servers according to the specific limitations of claim 1. Instead, the requests that are submitted to the “recreated server” in the system of the cited art are requests submitted by an “application client” (*see e.g.*, Figure 1 and column 5, lines 1-11). **However, the “application client” taught by the cited art is clearly not a part of a specific plurality of servers as recited in claim 1.** For instance, claim 1 requires that each server of the plurality of servers include a timer service. However, the “application client” taught by the cited art does not include such a timer service. Nor would it make sense for such application client to include a timer service since the application client of Leymann sends requests to remote servers (*see e.g.*, the cluster of Figure 1, not local services (much less local timer services). **Since the “requests” taught by the cited art (a) do not originate from within the claimed plurality of servers and (b) are not serviced by a timer service in the claimed plurality of servers, the cited art fails to teach or suggest the specific limitations of Applicants’ claim.**

**Furthermore, Applicants assert the Examiner has failed to state a proper reason as to why one of ordinary skill in the art would combine the teachings of Grinter with the teachings of Leymann.** The Examiner asserts “[i]t would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have the teaching of Grinter a system for real-time monitor and response with Leymann’s teachings to have a timer service, for the purpose of monitoring and keeping track of the proper operation of any unattended service” (emphasis added). **However, Leymann fails to teach that his system includes “unattended service[s].”** Thus, the Examiner’s reasoning is unsupported by the actual evidence of record. Accordingly, one of ordinary skill in the art would not combine the teachings of Grinter with the teachings of Leymann “for the purpose of monitoring and keeping track of the proper operation of any unattended service.”

Thus, for at least the reasons presented above, the rejection of claim 1 is unsupported by the cited art and removal thereof is respectfully requested. Remarks similar to those presented above apply to independent claims 9 and 17.

Applicants also assert that numerous ones of the dependent claims recite further distinctions over the cited art. However, since the rejection has been shown to be unsupported for the independent claims, a further discussion of the dependent claims is not necessary at this time. Applicants reserve the right to present additional arguments.

## **CONCLUSION**

Applicants submit the application is in condition for allowance, and notice to that effect is respectfully requested.

If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 501505/5681-68500/RCK.

Respectfully submitted,

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